Determination of Public Land (Rangeland) Health for 64088 JAMES E. JENKINS

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on the assessments, it is my determination that the public land within the James E. Jenkins allotment #64088 meets the (1) Upland Sites standard (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species and (3) Riparian standard.

/s/ T. R. KREAGER	08/10/2004
Assistant Field Manager	Date

Standards of Public Land Health
Evaluation of 64088 JAMES E. JENKINS Allotment
[06/24/2004]

The Roswell Field Office conducted rangeland health assessments at two (2) study sites withinthe James E. Jenkins Allotment # 64088. The assessments looked at the Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within the vicinity of each study site. Existing monitoring data was incorporated into and in support of the field assessment. The summary of each assessment is attached and shown in the following table.

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
64088-IDSU-A171 (*)	X			X			N/A		
64088-IDSU-A172 (*)	X			X			X		

Twenty-two (22) indicators for Rangeland Health were evaluated for the public land on the James E. Jenkins allotment #64088. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjuction with quantitative information previously collected on 2 locations were utilized to assess the rangeland health of the public land within the allotment. This allotment is in the "C" (custodial) management category due to the small amount of public land present. No livestock are currently utilizing both the bottomland and upland tracts. The drought has impacted both tracts and surrounding area. The presence of weeds on both parcels is evidence of past cultivation or disturbance. The parcel with the 40 acres/16.6 hectares abutting the Pecos River, does include a portion of the river. Therefore a small portion of it would need to be classified as Riparian. The course of the river runs parallel for a stretch and then heads in an easterly direction. Saltcedar (Tamarix ramossissima) is vegetating the banks with headcuts and some bank instability. Some saltcedar does appear to be treated as evidenced by some dead trees and mutated leaders on some trees as a final attempt to resprout. A pasture boundary fence separates the river and bottomland portions. The majority of the tract however is SD-3 Bottomland with a Vinton-Glendale soil phase. This association occurs on the Pecos River floodplains with 0-1% slopes subject to occasional flooding.

Indicators with soil and hydrologic attributes of concern include pedestals and/or terracettes, bareground, litter movement, plant community composition and distribution relative to infiltration and runoff, and litter amount. Pedestals are active on the alkali sacaton (Sporobolus airoides) clumps which have become dead or decadent. The dead

clumps are being used as seedbeds and resource islands by Russian thistle (Salsola iberica), which has infested the site. This indicator rates Moderate. Bareground rates Moderate to Extreme as estimations are reaching approximately 70% exceeding the upper range of the ESD at 24%. Now the ground cover is either made up mostly of Russian thistle, a few scattered sacaton pockets or just bareground. Due to the drifting effect of the river floodplain and periodic flooding events, the structure and make-up in portions of the site has appeared to shift to a more sandy profile. Mesquite (Prosopis glandulosa) hummocks are evidence that there is a more sandier component moving in. The invasive plants indicator rates at Moderate with these hummocks with mature mesquite trees are scattered throughout. Also adding to this problem of course is the tumbleweed infestation. Litter movement is Moderate as whatever small amount of litter exists is made up of either annuals or dead grass clumps. There is an obvious physical soil crust that is tending to cement the soil surface causing runoff and limited infiltration. This hydrologic attribute has been altered by changes in the plant community from a more characteristic bottomland with sacaton dominating to a disturbed matrix of tumbleweeds and other annual forbs. This indicator rates Moderate as a result. Functional/structural groups also rates Moderate and this parallels the changes in plant community. Tobosa (Pleuraphis mutica) and four-wing saltbush (Atriplex canescens) are two of the major components missing for the area.

Litter amount rates at Moderate to Extreme as the percent litter falls below the bottom end of the range expected for the ESD which is 30%. Annual production also rates Moderate to Extreme as this biotic attribute currently shows less than 1/5 of the potential. Grass production is down significantly. The 1991 monitoring shows 500 lb/ac or kg/ha and currently this indicator is far below this figure. There are some physical crusts acting as a hard pan with tumbleweeds and other annuals scattered. This has possibly led to reduced production of desirables, and increased runoff potential.

The other 40 acre/16.6 hectare tract is situated upland off the floodplain. An abrupt bench delineates the bottomland from the upland portion. No fence is in place to separate the two. This upland ecological site is a loamy SD-3 with a Holloman-Gypsum land complex on 0-3% slopes west of the Pecos River. Indicators of concern are pedestals and /or terracettes, bareground, soil surface resistance to erosion, functional/structural groups, litter amount, annual production and invasive plants. There are some terracettes occuring on grass species such as tobosa and alkali sacaton. The drought conditions have resulted in some of the grass clumps to become somewhat elevated. The indicator rated Moderate. Bareground rates Moderate to Extreme as the percentage estimated at 70% exceeds the upper end of the range expected. There are quite a few bare patches totally devoid of vegetation. Soil surface resistance to erosion rates at Moderate as resistance has been reduced throughout the site as indicated by the soil site stability test.

Functional/structural groups rates Moderate as the number of species has been reduced with less diversity as would be expected. The dominance has been reduced as mesquite and creosote (Larrea tridentata) are common throughout. Invasive plants rates Moderate to Extreme mainly due to these two shrubs encroaching. The abandoned farming operation has left some of these areas originally disturbed to remain as is with no

reclamation, criss-crossing two-track roads and large bare patches. The slow encroachment of shrubs with no management accounts for this situation. There is virtually no litter except for the occasional mesquite and grass standing dead material. This indicator rates Moderate. Annual production is only a fraction of the potential currently estimated. Except for mesquite and creosote, the bulk of current production is made up of tobosa and burrograss (Scleropogon brevifolius). This biotic indicator rates as Moderate also. There is very hard physical crusting taking place, but the forb component is still active with croton (Croton spp.) and globemallow (Sphaeralcea spp.) occuring intermittently.

Wildlife - The two isolated parcels of public land will be evaluated together. Evaluation of the integrity of the biotic community considered several indicators as attribute indices for the area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function, and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and plant mortality & decadence, as discussed above. Specifically, the biotic indicators that fell within the Moderate and Moderate to Extreme rating are functional/structural groups, litter amount, annual production and invasive plants. Considering present climate regimes, the annual production indicator can be expected to fall within the normal range of variability. In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. Wildlife Habitat and Population indicators are Slight to Moderate and Moderate. With respect to Special Status Species, none are known to occur in the area of interest at this time and the Habitat and Population indicators are, therefore, rated None to Slight (aquatic species of the Pecos River not being evaluated).

Hydrology - Pasture IDSU A171 - The pedestals and/or terracette indicator rated as moderate. The recent dry conditions in combination with wind and water erosion has possibly decreased the amount of plant cover and possibly decreased infiltration into the soils which may have increased the amount of pedestaling of plants. The bare ground indicator rated as moderate to extreme. The amount of bare ground has possibly increased due to recent dry conditions and also wind and water erosion processes. Soil surface resistance to erosion rated in the moderate category. Organic matter is lacking on this site, but this is expected for an area that has a small amount of litter present. The litter amount rated in the moderate category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Additionally, the decrease in litter amount can have the effect of increasing the amount of bare soil. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary alluvial deposits outcrop in the area.

Pasture IDSU A172 - The pedestals and/or terracette indicator rated as moderate. The recent dry conditions in combination with wind and water erosion has possibly decreased the amount of plant cover and possibly decreased infiltration into the soils which may have increased the amount of pedestaling of plants. The bare ground indicator rated as moderate to extreme. The amount of bare ground has possibly increased due to recent dry

conditions and also wind and water erosion processes. The litter movement indicator rated in the moderate category. The decrease in litter movement suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced and litter movement. The plant community composition and distribution relative to infiltration and runoff rated as moderate. The recent dry conditions or drought conditions have possibly increased the amount of conversion of grassland to shrub land which has reduced infiltration and increased runoff. The increase of all species and class would help increase water infiltration and decrease runoff. The litter amount rated in the moderate to extreme category. The decrease in litter amount suggests that the dry conditions have had a negative affect on the growing conditions which decreases the amount of litter that is produced. Additionally, the decrease in litter amount can have the effect of increasing the amount of bare soil. All other indicators rated as none to slight or slight to moderate. Sand and gravel deposits of Quaternary alluvial deposits outcrop in the area.

It is the professional opinion of the Assessment Team that the public land within the James E. Jenkins allotment #64088 meets the Upland, Biotic and Riparian standards. See site notes and recommendations for further information regarding these two ecological sites.

The (*) indicates that the assessment had one or more indicator(s) rated moderate/extreme or extreme. These indicators are:

- Bare Ground
- Litter Amount
- Annual Production
- Invasive Plants

These indicators by themselves are not enough to rate the site as not meeting a standard but may warrant future monitoring.

Recommendations: The recommendation for the two public land parcels is to initiate a more rigorous monitoring regime. These two tracts are difficult to manage for however since access can only be obtained by permission of the lessee. to unlock his gate. However the Riparian issue is one which may keep the tracts from disposal or exchange. If the BLM prefers to continue to manage these areas, then more intensive management may need to be put into place. The lessee has expressed interest in exchanging other land for the two tracts or to purchase them.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64088-IDSU-A171			
Legal Land Desc	NWNW 7 0150S 0270E Meridian 23	Acreage	40
Ecosite	042CY007NM LOAMY SD-3	Photo Taken	Y
Watershed	13060007080 HAGERMAN		
Observers	NAVARRO/MCGEE	Observation Date	06/24/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	Hp	Soil Taxon Name	HOLLOMAN
Texture Class	NM666 L	Soil Phase	HOLLOMAN-GYPSUM LAND
Texture Modifier	NM666 LOAM		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	8.1	NOAA Growing Season Precipitation	5.98
NOAA Avg Annual Precipitation	12.15	NOAA Avg Growing Season Precipitation	9.95
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						

S H	Pedestals and/or Terracettes			X		
Comments:						
S H	Bare Ground		X			
Comments:	Now estimated at 60-70%					
S H	Gullies					X
Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion			X		
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	We now have burrograss, tobosa, croton, and threeawn. The mesquite is encroaching slowly but steadily.					
B	Plant Mortality/Decadence				X	
Comments:						

H B	Litter Amount			X		
Comments:	20% is the current estimate.					
B	Annual Production					
Comments:	Only a fraction of the potential. Drought and brush encroachment are contributing.					
B	Invasive Plants		X			
Comments:	Mesquite is common along with creosote.					
B	Reproductive Capability of Perennial Plants				X	
Comments:	Only slightly limiting.					
S	Physical/Chemical/Biological Crusts				X	
Comments:	Mostly physical and resembling hard pan.					
B	Wildlife Habitat				X	
Comments:	A mesquite grassland habitat type above the floodplain of the Pecos River.					
B	Wildlife Populations				X	
Comments:	No specific wildlife population data at this time. Expect a shift from grassland wildlife species to shrub-grassland wildlife species.					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					
Part 3. Summary						
A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.						
Standard Attribute		Extreme	Moderate to	Moderate	Slight to Moderat	None to

			Extreme		e	Slight
S	Soil	0	1	2	4	3
H	Hydrologic	0	1	3	4	3
B	Biotic	0	1	3	5	3

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		1	2	7
Hydrologic		1	3	7
Biotic		1	3	8

Site Notes: The location was gps'd and photographs were taken. This upland site is just adjacent from the bottomland. There is a steady increase in mesquite as the slope upgrades from the bottom. The distinct cutoff has some remnants from possible dry land farming in the past. Farm equipment is scattered throughout the area and old roads and trails exist where activity may have been occuring. These denuded areas show no signs of revegetating.

RFOs Upland and Biotic Standard Assessment Summary Worksheet			
SITE 64088-IDSU-A172			
Legal Land Desc	SWSE 6 0150S 0270E Meridian 23	Acreage	40
Ecosite	042CY033NM SALTY BOTTOMLAND S	Photo Taken	Y
Watershed	13060007080 HAGERMAN		
Observers	NAVARRO/MCGEE	Observation Date	05/24/2004
County Soil Survey	NM666 CHAVES SOUTH	Soil Var/Taxad	
Soil Map Unit	VG	Soil Taxon Name	VINTON
Texture Class	NM666 FSL	Soil Phase	VINTON-GLENDALE
Texture Modifier	NM666 LOAMY FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	8.1	NOAA Growing Season Precipitation	5.98
NOAA Avg Annual Precipitation	12.15	NOAA Avg Growing Season Precipitation	9.95
Disturbances and Animal Use:			

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:	Stable and short.					

S H	Pedestals and/or Terracettes			X		
Comments:	There is sign of past active pedestaling of alkali sacaton clumps. The Russian thistle is utilizing these old dead clumps as germination and propogation islands,					
S H	Bare Ground		X			
Comments:	Exceeds the upper end of the range expected.					
S H	Gullies					X
Comments:	Too flat for gullying to occur.					
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement			X		
Comments:	Very little litter present and annuals are making up whatever litter there is.					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	Physical crusts stabilizing.					
S H B	Soil Surface Loss or Degradation				X	
Comments:	Erosion in some places.					
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments:	Russian thistle is abundant with only a few isolated pockets of alkali sacaton where the possible water table is possibly shallower.					
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	Russian thistle and other weed species make up the bulk of the plants present. The river portion is infested with live and dead saltcedar however.					
B	Plant Mortality/Decadence					X
Comments						

:						
H B	Litter Amount		X			
Comments:	So very litter exists.					
B	Annual Production		X			
Comments:	Most of the production is annuals and some other grasses like threeawn and burrograss along with croton making up the rest.					
B	Invasive Plants			X		
Comments:	Mesquite scattered throughout along with Russian thistle.					
B	Reproductive Capability of Perennial Plants				X	
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	A very hard physical crusts exists which is leading to reduced production and and increased runoff.					
B	Wildlife Habitat			X		
Comments:	Degraded floodplain area, no groundcover. Downward trend in habitat quality for numerous wildlife species that may utilize the area due to its poximity to the Pecos River. Banks of river is dominated by saltcedar.					
B	Wildlife Populations				X	
Comments:	No specific wildlife population data at this time. Expect a static trend due to the lack of vegetation recovery in the floodplain (possibly due to a drop in the water table that use to sub-irrigate the area).					
B	Special Status Species Habitat					X
Comments:	None known to occur.					
B	Special Status Species Populations					X
Comments:	None known to occur.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	1	1	5	3
H	Hydrologic	0	2	3	3	3
B	Biotic	0	2	3	4	4

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		1	1	8
Hydrologic		2	3	6
Biotic		2	3	8

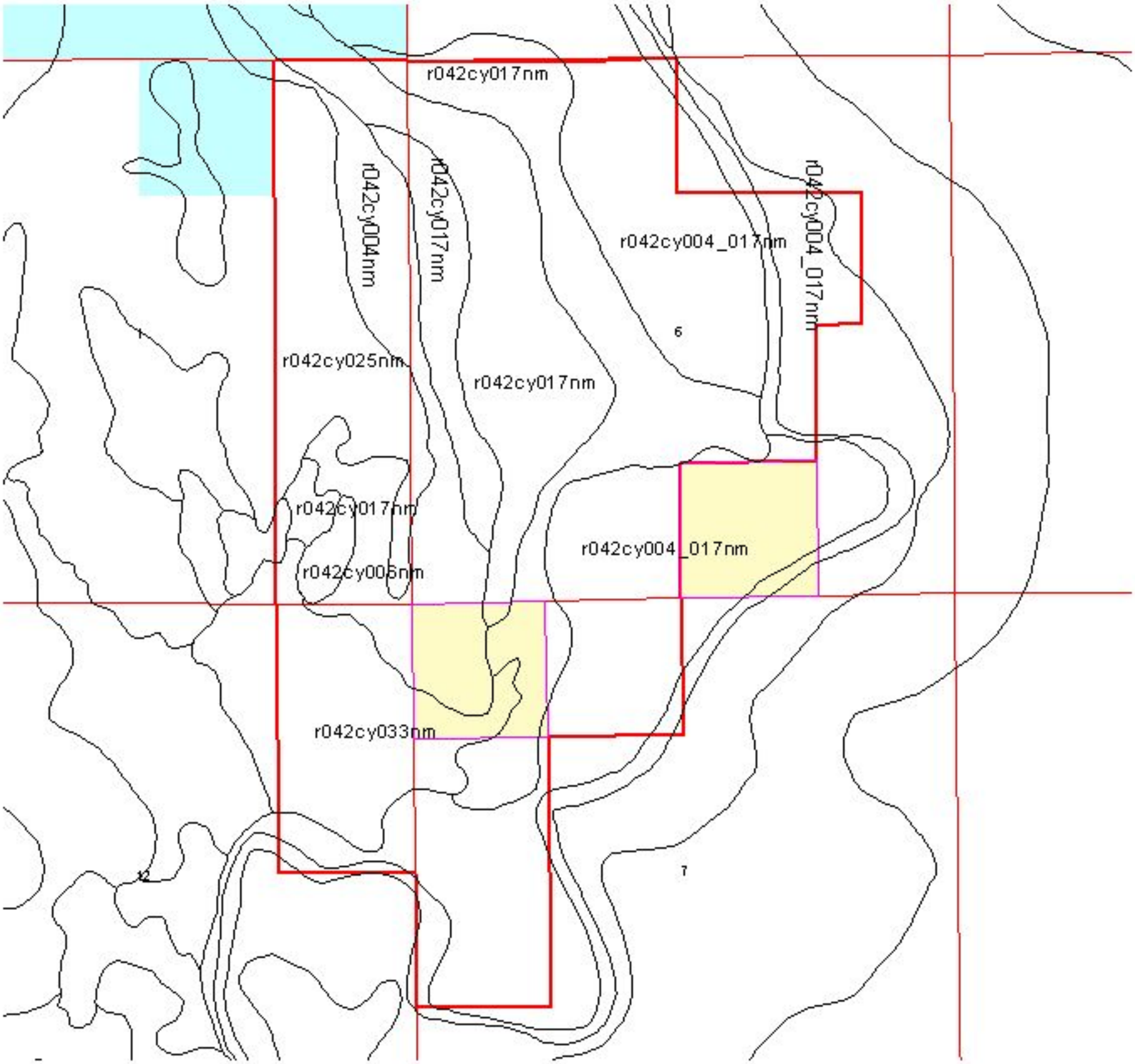
Site Notes: The location was gps'd and located for future reference. Reference photographs were also taken. The alkali sacaton is in small isolated pockets and the production is higher in these areas. Russian thistle is common throughout and the mesquite coppice dunal formation suggests that the site has lost a majority of characteristics identifying it as a salty bottomland. Periodic flood events have helped deposit sand and other materials over on top possibly changing the structure and make-up the the soil. Over time this has lead to the formation of coppice dunal areas where mesquite is elevated. Erosional events have deteriorated the site. Saltcedar is situated along the river bank and it appears that some of it has been treated.


DATE 6-24-04
FO RFO
ALLOT #64088
PASTURE IDSU
VEGID# 174
6.24.2004

Rangeland Health Assessment
Ecological Sites

Allotment 64088

T14.R26E



T15S.R27E

0 0.5 Miles

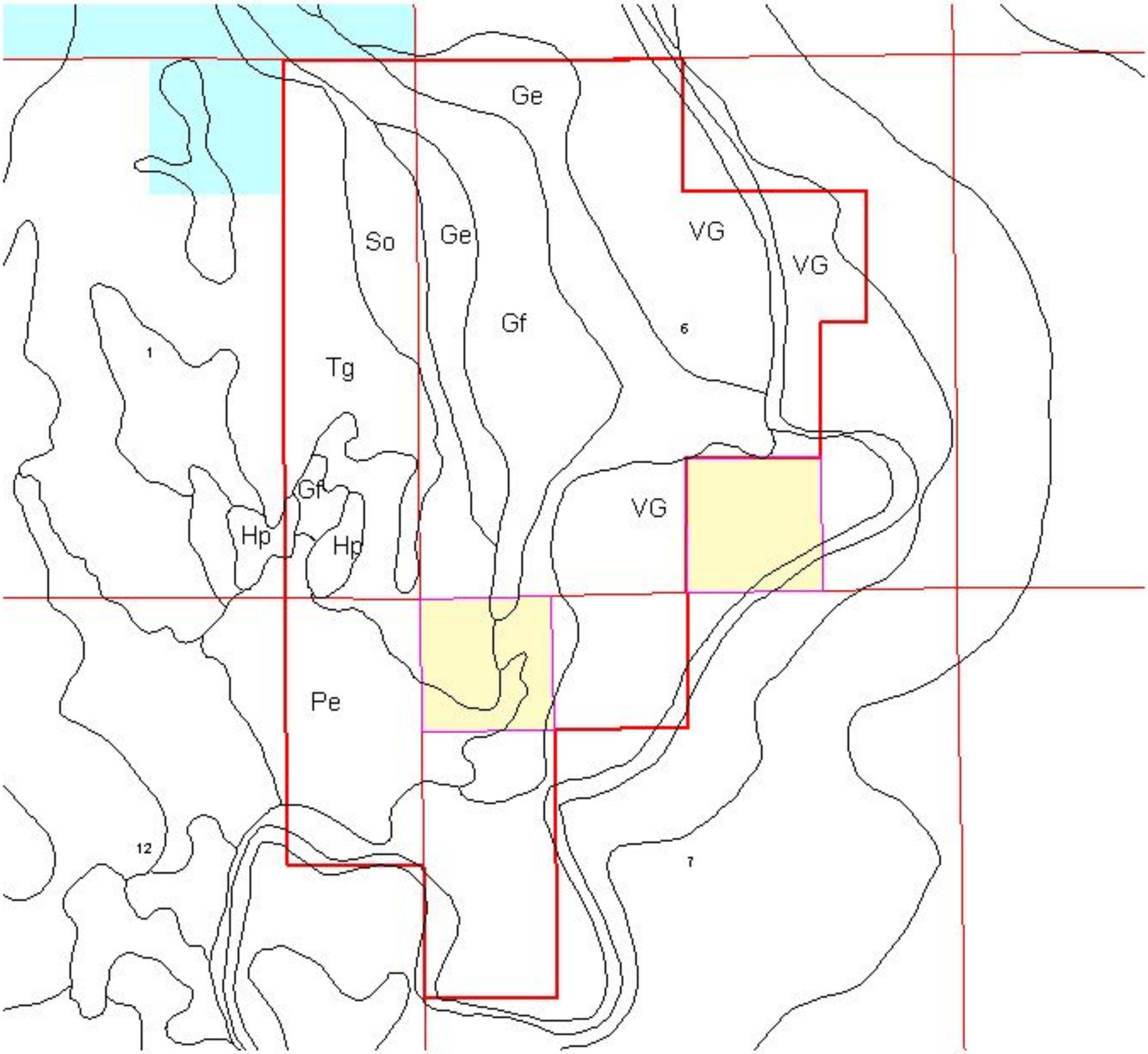
Public
Study Plots
State
Private
Study Locations
Ecological Sites
Allotment Boundary

Produced by the Roswell Field Office
GIS Intern on July 28, 2003.

Rangeland Health Assessment
Soil Mapping Units

Allotment 64088

T14.R26E



T15S.R27E

0 0.5 Miles

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Study Plots

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Study Locations

Soil Mapping Units

Allotment Boundary

Produced by the Roswell Field Office
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